

GOAL:**2** Protect and preserve New Hampshire's land and water resources including farms, forestlands, wildlife habitats, water resources, air quality, and other critical environmental areas.

New Hampshire's physical attributes provide both the backdrop and the foundation to all that happens here—the State's strong economy, the extraordinary quality of life experienced by its citizens, its history and rugged culture—all find their basis in the soil, forests, water, air, and the very landscape that makes up the Granite State. Yet the State's natural resources are not static—rather, they are dynamic and responsive to how they are used. Many measures suggest that the State's natural resources are being used without a clear vision for the future, and this lack of overall planning has the potential to lead to unfavorable consequences—such as a reduced quality of life for its citizens, degradation of critical habitat for wildlife, overuse of important resources such as groundwater, conversion of important farmland to development—in short, a loss of the things and places that make New Hampshire special.

There is a keen recognition that the State's natural resources are under stress. Accompanying this recognition is the realization that failure to act now will substantially reduce the range of conservation and preservation choices we have in the future, and this is especially true in those portions of the State that have experienced the greatest levels of growth in recent years.

Although a significant percentage of the State's land cover remains forested, this amount has declined in recent years. And as important as this overall reduction in forested land cover is, how it is happening is equally important. The

fragmentation of large tracts of forested land threatens not only the continued economic viability of forestry in some parts of the State, but also potentially damages wildlife habitat and species diversity. Biodiversity is greatest in southern New Hampshire, the same area that faces the greatest pressures from development. Therefore, there is an immediate need to identify areas upon which species of concern depend, and to protect those areas from development.

Similarly, the State's important agricultural heritage is being lost to development pressures, but for different reasons. Although agriculture remains an important part of the State's overall economy, on an individual basis farming operations are often unable to maintain existing agricultural uses in the face of development pressures. The problem remains, however, that once developed prime farmland cannot be returned to agriculture. Certain national economic models suggest that with rising costs of fuel and petroleum-based fertilizers and pesticides, local agriculture will become increasingly important. This view suggests that it is in New Hampshire's long-term best interest to preserve important agricultural land for future use.

New Hampshire's approximately 1,000 lakes and nearly 10,000 miles of rivers and streams are experiencing unprecedented pressure from land use development. New development, along shorelines and throughout the

watershed, creates additional impervious land cover, limiting storm water infiltration and creating polluted runoff flows to the nearest surface water body. These water resources provide recreational opportunities such as swimming, boating and fishing, as well as non-recreational functions including transportation, manufacturing, electricity generation, and drinking water supplies. Combined, the total estimated annual sales generated by these recreational uses and public drinking water supplies range between \$1.1 and \$1.5 billion.¹ The value placed upon the State's water resources, however, depends upon a continued high quality of water.

Increased carbon dioxide emissions and other greenhouse gasses lead to raised average temperatures which in turn lead to ecological collapse for several tree species including those necessary for wildlife habitat, forestry operations and the maple sugar industry; dulling and browning of the foliage season; loss of snow cover and ski season days; sea level rise causing significant alterations to the Great Bay and coastal areas; and a loss of cold water fishing, all vital to New Hampshire's economy.² Mitigation of climate change reduces negative impacts of increased sea level, severe weather events, changes in natural resources, and health impacts. Additionally the decreased air quality associated with increased emission can lead to respiratory problems, particularly for children, the elderly, and those with asthma.³

STRATEGY 1:

Manage water use and minimize the impacts of stormwater runoff and pollution on New Hampshire's surface waters and ground water, particularly the availability and quality of drinking water supplies and aquatic biological communities.

Low-impact development (LID) creates onsite opportunities for stormwater to infiltrate onsite essentially negating the impacts of development. LID techniques not only reduce the frequency and magnitude of flooding, but also may increase the quantity of groundwater available for municipal and domestic use. The natural infiltration process breaks down pollutants as the runoff moves through the soil. LID can reduce or eliminate the runoff associated with new or existing development, as well as, "control the flow and direction of stormwater, while maintaining existing hydrologic features, such as functional wetlands and naturally flowing streams."⁴ Managing and protecting the State's water supplies will ensure continued availability of drinking water supplies and health of aquatic biological communities.

Strategy Implementation:

- A. Adopt principles of LID to mitigate stormwater impacts and develop regulatory standards for state permitting.
- B. Encourage municipal authorities to adopt LID standards in zoning ordinances and subdivision and site plan regulations.
- C. Require state agencies to utilize LID-based strategies in construction projects.
- D. Encourage county and municipal authorities to utilize LID-based strategies through provision of advisory resources and preferential funding assistance mechanisms.
- E. Develop a strategic plan that identifies a sustainable balance between watershed and water body protection with economic and social activities.

F. Establish a Volunteer Lake Assessment Program and Weed Watcher program on every lake in the State.

G. Ensure continued public access to the State's waters.

STRATEGY 2:

Protect the State's valuable natural land and air resources that are a vital component of the State's quality of life and economy.

The State's air quality, farms and forests are vital components of the State's economy. Employers faced with a skilled labor shortage will locate where available employees live. New Hampshire's diverse natural resources – mountains, seacoast, forests, agriculture, and lakes – give the State a competitive economic advantage.⁵ Energy generation is one of the greatest contributors to air pollution and climate change. Reducing energy demand and establishing renewable energy supplies can preserve and even improve the State's air quality. Climate change mitigation enables New Hampshire to build a more efficient and sustainable economy – averting significant losses to the State's agriculture, forestry, maple sugaring, and tourism industries, all dependent on protection of the State's natural resources.

Strategy Implementation:

A. Enhance market for low-grade forest products through active intervention by the State as a market participant.

B. Increase public awareness and appreciation of forests as a basic and renewable natural resource and a major economic, environmental, and sociological factor in New Hampshire's future.

C. Increase and improve the level of forest resource management currently practiced in New Hampshire.

D. Provide tax incentives to encourage use of low-emission vehicles through the Granite State Clean Cars Program.

E. Change the State vehicle fleet to hybrid or equivalent technology as is practical.

F. Implement the New Hampshire Clean Power Strategy (NHCPS) to reduce emissions of carbon dioxide and other pollutants from New Hampshire's electric power plants.

G. Maintain and expand renewable energy resources in New Hampshire.

H. Require state agencies to incorporate energy efficiency and conservation in daily operations, new construction, and existing structure retrofits.

I. Establish financial incentives and technical assistance to encourage municipalities to incorporate energy efficiency and conservation in daily operations, new construction, and existing structure retrofits.

J. Encourage the establishment of municipal Agricultural Commissions.

K. Establish state and local tax credits for agricultural activities and uses.

STRATEGY 3:
Conserve statewide critical habitats and species in need of protection.

The New Hampshire Fish and Game Department's *Wildlife Action Plan* provides state decision-makers with important tools for restoring and maintaining critical habitats and populations of the State's species of conservation and management concern. It is a pro-active effort to define and implement a strategy that will help keep populations of threatened species strong and thereby avoid their listing on rare or endangered species lists. This in turn will save taxpayers millions of dollars. The following implementation items are derived from the *Wildlife Action Plan* and are incorporated here to support the efforts of the NH Fish and Game Department to implement the *Wildlife Action Plan*.⁶

Strategy Implementation:

- A. Provide public and private entities at all levels in the urban development and planning communities with information and assistance, including conservation science, maps, and mitigation guidelines to encourage sustainable development in sensitive wildlife areas.
- B. Promote the inclusion of wildlife in structured risk assessments by agencies engaged in transportation and industrial development projects.
- C. Promote regional and national policies and funding that improve air and water quality for New Hampshire's wildlife and people.
- D. Guide management and restoration of rare and declining plants, animals, habitats, and natural communities.
- E. Address human and ecological issues that threaten New Hampshire's biodiversity with strategies such as

population management, habitat management and, when necessary, regulatory protection.

- F. Compile, manage, and analyze information about New Hampshire's wildlife; assess risks; and prioritize conservation actions.
- G. Develop a system to monitor ecological health and management performance.
- H. Adapt wildlife habitat and species protection actions to meet ever-changing conditions.

STRATEGY 4:
Continue statewide, regional, and local conservation land acquisition in coordination with other important social goals such as provision of affordable housing.

Significant steps have been taken to identify and protect important areas, through state, regional and local actions. The cooperative acquisition and protection of International Paper's 171,500 acres of land at the Connecticut Lakes Headwaters by the State, the Trust for Public Land, and the Society for the Protection of New Hampshire Forests, represented the fulfillment of an extraordinary opportunity to protect 4% of the State's landmass.⁷ While this project was singularly important, it is also through smaller efforts that considerable gains may be made. The creation of the Land and Community Heritage Investment Program (LCHIP) in 2000 directed substantial state resources in collaboration with local organizations to identify and protect both important natural and historical resources.

Land conservation should not be at odds with other social goals, such as housing. Through statewide,

regional and local efforts, the most ecologically important lands and those most suited for development can be identified and various mechanisms implemented to pursue each goal simultaneously.

Strategy Implementation:

- A. Identify and secure a permanent funding source for LCHIP that will restore funding to LCHIP for both conservation and historic preservation purposes
- B. Link LCHIP conservation funding with a local conservation commission's completion of a natural resources inventory.
- C. Ensure development and maintenance of sources to fund stewardship of existing and newly acquired conservation assets.
- D. Maintain purposes and focus of the Current Use program.
- E. Encourage more municipalities to devote the land use change tax to local conservation funds.
- F. Develop proactive strategies such as landowner incentives to promote voluntary land protection.
- G. Encourage local (municipal or private) ownership of important conservation assets through technical assistance available at state and regional levels.
- H. Expand statutory definition of impact fees to allow for purchase of open space; link with provisions allowing municipalities to require affordable housing as part of residential developments, and allow assessment of impact fees upon non-residential development for the purpose of developing affordable housing made necessary by growth.

STRATEGY 5:

Make land use decisions that account for long-term incremental and regional impacts of development on natural resources.

The regional impacts of large-scale developments transcend most areas of planning, and consider not just natural resource impacts, but also regional transportation, public infrastructure, and economic concerns. The statute that enables review of developments of regional impact is strictly voluntary and offers municipal planning boards no standards for review. Presently, state level development permitting is done by agencies in a compartmentalized manner, with one part of a development's impact not being fully related to another. This system was developed in response to statutory mandates.

There is an additional need to measure and mitigate the incremental impacts of all development. While it is understandable that the attention of state agencies and the public generally is drawn to large-scale projects, either because of permitting standards or because of controversy, smaller scale development also impacts upon environmental systems. The aggregate impact of all development, large and small, can have substantial regional consequences for the integrity of natural resources. This is seen in studies of groundwater and surface water utilization, the impact of impervious surface coverage upon water quality, and the fragmentation of habitat by scattered residential development, among others.

Strategy Implementation:

- A. Reform state-based environmental permitting to ensure comprehensive review of all impacts of development proposals by consolidating permit structure and appeals processes.
- B. Base environmental permitting on impacts to overall regional environmental systems, and recognizing incremental impacts of all development.
- C. Establish regulations to limit the use of natural areas (water and land) based upon a scientifically derived determination of “sustainable carrying capacity.”
- D. Provide assistance to municipalities to ensure that their local land use ordinances and regulations are “farm friendly.”
- E. Develop model ordinances for protection of agricultural land and existing agricultural operations; provide assistance to municipalities to tailor such ordinances to meet local needs and conditions.

Surface Waters.” Concord, NH: 2005.

<<http://www.des.state.nh.us/factsheets/wmb/wmb-17.htm>>

- ⁵ NH Department of Environmental Services. The Climate Change Challenge. Concord, NH: 2001.

<<http://www.des.state.nh.us/ard/climatechange/challenge.htm>>

- ⁶ NH Fish and Game Department. New Hampshire Wildlife Action Plan. Concord, NH: 2005.

<http://wildlife.state.nh.us/Wildlife/wildlife_plan.htm>

- ⁷ Land and Community Heritage Investment Program. “2001 Press Releases.”

<<http://www.lchip.org/PressReleases/pressreleases2001.htm>>
April 5, 2007.

¹ Shapiro, Dr. Lisa, Heidi Kroll, Gallagher, Callahan & Gartrell, P.A. Estimates of Select Economic Values of New Hampshire Lakes, Rivers, Streams and Ponds: Phase II Report. Concord, NH: NH Lakes Association, 2003.

<<http://www.nhlakes.org/docs/EcoStudyPhaseII.pdf>>

² NH Department of Environmental Services. “ARD-23 Global Climate Change and Its Impact on New Hampshire.” Concord, NH: 2005. <<http://www.des.state.nh.us/factsheets/ard/ard-23.htm>>

³ NH Department of Environmental Services. “ARD-16 Air Quality Information in New Hampshire.” Concord, NH: 2006. <<http://www.des.state.nh.us/factsheets/ard/ard-16.htm>>

⁴ NH Department of Environmental Services. “WD-WMB-17 Low Impact Development: taking Steps to Protect New Hampshire’s